

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P294559

Luminaire Tested: **BMK-12-NCL-UNV-L850-CD-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P294559
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-7)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-12-NCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR LENS
Light Source: (528) 80 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

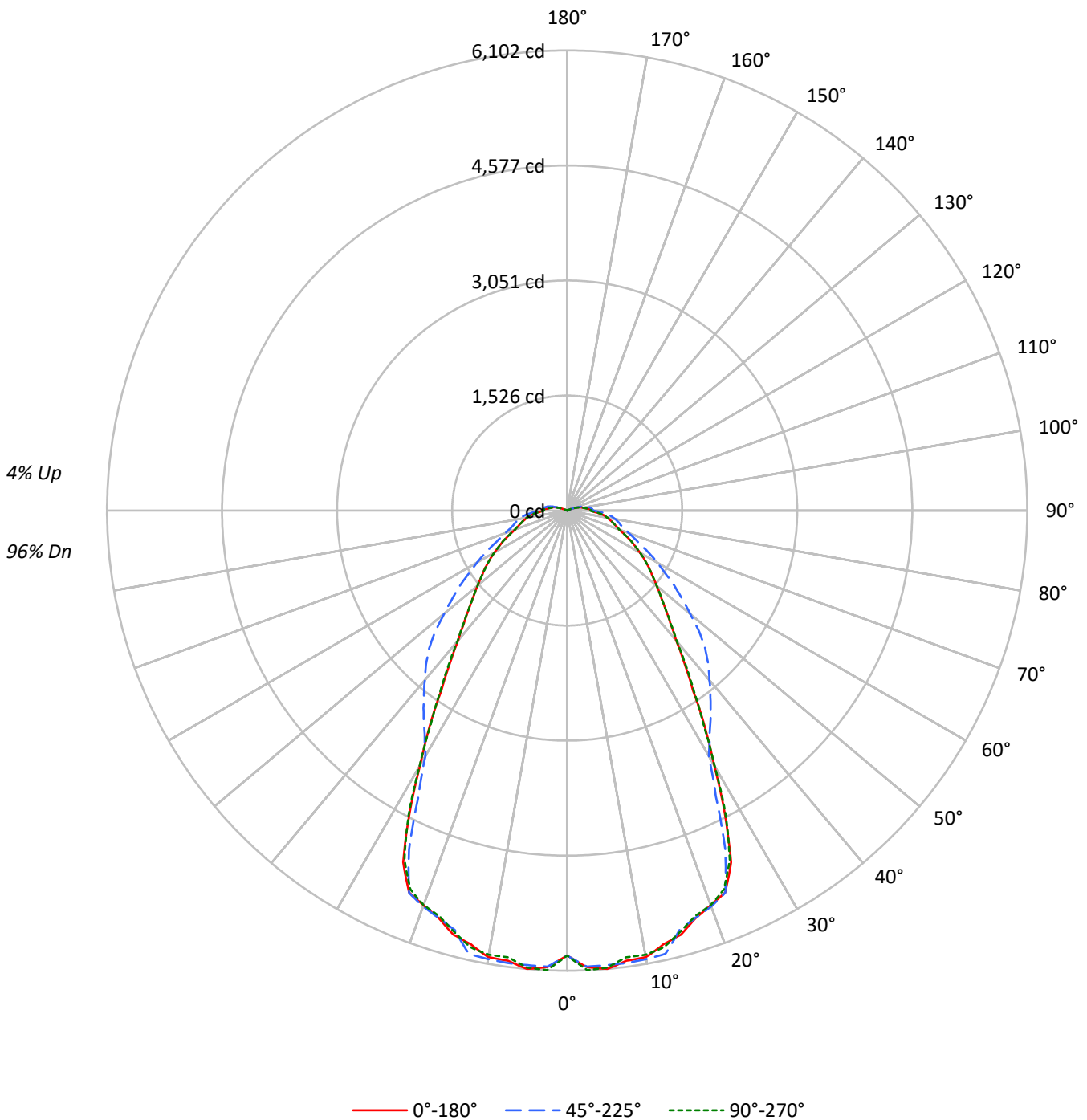
Lumens per Lamp: N/A
Luminaire Lumens: 12256.0 lumens
Efficiency: N/A
Efficacy: 165.0 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	108	103	99	95	105	100	96	93	95	92	89	91	88	86	86	84	82	80
2	99	91	84	79	96	89	83	78	84	79	75	81	76	73	77	74	71	68
3	91	81	73	67	88	79	72	66	76	70	65	72	67	63	69	65	61	59
4	84	73	65	58	82	71	64	58	68	62	56	65	60	55	63	58	54	52
5	78	66	58	51	76	65	57	51	62	55	50	60	54	49	58	52	48	46
6	73	60	52	46	71	59	51	45	57	50	45	55	49	44	53	48	43	41
7	68	55	47	41	66	54	46	41	52	45	40	51	44	40	49	43	39	37
8	64	51	43	37	62	50	42	37	48	42	37	47	41	36	45	40	36	34
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	42	37	33	31
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	34	30	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	45487	45487	45487
5°	46729	46336	46598
10°	46108	46300	45861
15°	45026	44521	44739
20°	43791	43918	43775
25°	41454	39964	41114
30°	32466	31302	32608
35°	25269	28823	25488
40°	20602	26854	20676
45°	17933	25205	17942
50°	16282	22339	16293
55°	15245	19872	15164
60°	14241	17605	14241
65°	13327	15735	13327
70°	12487	14808	12470
75°	13007	15119	12963
80°	14288	17134	14261
85°	16169	19551	16131



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	574.3	4.7
10°-20°	1632.4	13.3
20°-30°	2240.6	18.3
30°-40°	1964.5	16.0
40°-50°	1681.4	13.7
50°-60°	1361.6	11.1
60°-70°	1021.3	8.3
70°-80°	743.9	6.1
80°-90°	509.2	4.2
90°-100°	314.8	2.6
100°-110°	182.7	1.5
110°-120°	28.9	0.2
120°-130°	0.4	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4447.3	36.3
0°-40°	6411.8	52.3
0°-60°	9454.8	77.1
0°-90°	11729.2	95.7
90°-120°	526.4	4.3
90°-150°	526.8	4.3
90°-180°	527.0	4.3
0°-180°	12256.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5900	5900	5900	5900	5900	
5°	6102	6045	6050	6062	6084	577
15°	5822	5764	5757	5757	5785	1636
25°	5145	4952	4960	4960	5102	2277
35°	2910	3078	3319	3104	2935	1854
45°	1841	2144	2588	2126	1842	1435
55°	1328	1510	1731	1512	1321	1186
65°	918	1051	1083	1046	918	910
75°	631	717	734	713	629	668
85°	432	469	523	469	431	374
90°	318	330	346	324	308	180
95°	270	274	326	279	272	214
105°	168	172	215	169	166	169
115°	18	19	25	19	18	28
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5900.5	5900.5	5900.5	5900.5	5900.5
2.5°	6061.3	6018.1	6054.3	6078.4	6100.5
5°	6101.5	6045.2	6050.2	6062.3	6084.4
7.5°	6021.1	5960.8	6050.2	6006.0	5974.9
10°	6014.1	5916.6	6039.2	5957.8	5981.9
12.5°	5892.4	5882.4	6021.1	5921.6	5930.6
15°	5822.1	5763.8	5756.8	5756.8	5784.9
17.5°	5666.3	5631.1	5663.3	5646.2	5637.2
20°	5569.8	5553.8	5585.9	5602.0	5567.8
22.5°	5478.4	5400.0	5482.4	5414.1	5434.2
25°	5144.7	4951.7	4959.8	4959.8	5102.5
27.5°	4523.6	4411.0	4269.3	4427.1	4557.8
30°	3898.5	3931.6	3758.8	3924.6	3915.6
32.5°	3394.0	3487.4	3515.6	3491.4	3368.8
35°	2909.5	3078.4	3318.6	3104.5	2934.7
37.5°	2552.8	2784.9	3122.6	2779.9	2581.9
40°	2252.3	2528.6	2935.7	2540.7	2260.3
42.5°	2026.1	2329.6	2769.8	2317.6	2032.2
45°	1841.2	2143.7	2587.9	2125.6	1842.2
47.5°	1682.4	1971.9	2370.8	1972.9	1682.4
50°	1550.7	1785.9	2127.6	1784.9	1551.8
52.5°	1427.1	1646.2	1920.6	1634.2	1431.2
55°	1327.6	1510.5	1730.6	1511.6	1320.6
57.5°	1218.1	1386.9	1537.7	1384.9	1223.1
60°	1114.6	1265.3	1377.9	1254.3	1114.6
62.5°	1013.1	1154.8	1227.1	1155.8	1015.1
65°	917.6	1051.3	1083.4	1046.2	917.6
67.5°	820.1	950.8	965.8	944.7	825.1
70°	735.7	866.3	872.4	857.3	734.7
72.5°	678.4	783.9	791.0	785.9	678.4
75°	631.2	716.6	733.7	712.6	629.1
77.5°	581.9	652.3	691.5	653.3	585.9
80°	539.7	592.0	647.2	593.0	538.7
82.5°	495.5	534.7	596.0	536.7	499.5
85°	432.2	469.3	522.6	469.3	431.2
87.5°	351.8	398.0	431.2	395.0	345.7
90°	317.6	329.6	345.7	323.6	308.5
92.5°	326.6	308.5	335.7	306.5	313.6
95°	270.4	274.4	325.6	279.4	272.4
97.5°	244.2	255.3	309.5	250.3	243.2
100°	215.1	233.2	278.4	229.1	216.1
102.5°	196.0	208.0	255.3	211.1	199.0
105°	167.8	171.9	215.1	168.8	165.8
107.5°	125.6	125.6	141.7	126.6	123.6
110°	83.4	79.4	85.4	77.4	83.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	44.2	42.2	49.2	41.2	43.2
115°	18.1	19.1	25.1	19.1	18.1
117.5°	5.0	8.0	9.0	8.0	5.0
120°	3.0	4.0	3.0	4.0	3.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)